

*Clean Copy of the Claims*

*Following Entry of This Amendment*

1       1.(amended) A sensor, comprising:

2              a signal source that emits a physical signal;

3              a signal detector at a distance from the signal source to receive the physical signal;

4              an evaluation unit which is connected to the signal detector and evaluates the received

5       physical signal to determine the relative distance between the signal source and the signal detector,

6       wherein the signal source and the signal detector are situated on separate substrate bodies;

7              a control unit is connected to the signal source, the signal detector , and the evaluation unit,

8       wherein the signal source, signal detector and the evaluation unit can each be individually turned

9       on and off the control unit.

1       2.(amended) The sensor of claim 1, wherein the evaluation unit includes a memory device having

2       characteristic information indicative of the signal source.

1       3.(amended) The sensor of claim 1, wherein the spatial distance between the signal source and

2       the signal detector is constant, and the transmission properties of the transmission channel between

3       the signal source and the signal detector are variable.

1       4.(amended) The sensor of claim 1, wherein the spatial distance between the signal source and

2       the signal detector is variable, and that the transmission properties of the transmission channel

3       between the signal source and the signal detector are constant.

1 5.(amended) The sensor of claim 3, wherein the evaluation unit is configured and arranged such  
2 that the gas density or the transport rate or the throughflow quantity can be determined from the  
3 relative distance.

1 6.(amended) The sensor of claim 4, wherein the evaluation unit is configured and arranged such  
2 that the force acting on the sensor can be determined from the relative distance.

1 7.(amended) The sensor of claim 6, wherein the control unit is connected to the signal source and  
2 controls it, and that the evaluation unit is connected to the control unit in such a way that the  
3 information regarding the signal source can be updated with control data received from the control  
4 unit.

1 8.(amended) The sensor of claim 1, wherein the evaluation unit and is integrated into at least  
2 one of the substrate bodies.

1 9.(amended) The sensor of claim 8, wherein the evaluation unit is situated in the substrate body  
2 directly adjoining the signal detector.

1 10.(amended) The sensor of claim 8, wherein the evaluation unit is integrated into the second  
2 substrate body and the control unit is integrated into the first substrate body.

1 11.(amended) The sensor of claim 10, wherein the evaluation unit includes means for amplifying  
2 the signal.

1 12.(amended) The sensor of claim 3, wherein the second substrate body, in which the signal  
2 detector is situated includes a diaphragm.

1    13.(amended) The sensor of claim 12, further comprising a damping device to damp the  
2    diaphragm.

1    14.(amended) The sensor of claim 1, wherein the signal detector is sub-divided into a plurality  
2    detector elements sufficient to provide a measure of spatial resolution.

1    15.(amended) The sensor of claim 14, wherein said evaluation unit includes means for processing  
2    the spatially resolved measurement.

1    16.(amended) The sensor of claim 15, wherein conductor tracks are situated in the respective  
2    substrate is used to form the signal source.